

Title (en)

Semiconductor device, method of designing the same and semiconductor integrated circuit device

Title (de)

Halbleiteranordnung, Entwurfverfahren und Halbleiter-integrierte Schaltungsanordnung

Title (fr)

Dispositif semi-conducteur, méthode de conception, et dispositif de circuit intégré semi-conducteur

Publication

**EP 0845815 A2 19980603 (EN)**

Application

**EP 97120763 A 19971126**

Priority

JP 31763696 A 19961128

Abstract (en)

In an active area surrounded with an isolation formed on a silicon substrate, a large number of unit cells are disposed in a matrix, and the unit cells together form one MOSFET. Each of the unit cells includes a ring gate electrode in the shape of a regular octagon, a drain region and a source region formed at the inside and outside of the gate electrode, respectively, two gate withdrawn wires extending from the gate electrode to areas above the isolation, a substrate contact portion in which the surface of the substrate is exposed, and contacts for electrically connecting these elements with wires. These elements such as the ring gate electrode and the gate withdrawn wires are formed so as to attain a high frequency characteristic as good as possible. Thus, in a MOSFET for use in a high frequency signal device, the high frequency characteristics such as the minimum noise figure and the maximum oscillation frequency in particular can be totally improved. <IMAGE>

IPC 1-7

**H01L 29/78**; **H01L 29/423**; **H01L 29/06**

IPC 8 full level

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CPC (source: EP KR US)

**H01L 21/18** (2013.01 - KR); **H01L 23/4824** (2013.01 - EP US); **H01L 27/0207** (2013.01 - EP US); **H01L 29/0692** (2013.01 - EP US); **H01L 29/1087** (2013.01 - EP US); **H01L 29/41758** (2013.01 - EP US); **H01L 29/4238** (2013.01 - EP US); **H01L 2924/0002** (2013.01 - EP US)

C-Set (source: EP US)

**H01L 2924/0002** + **H01L 2924/00**

Cited by

EP1540737A4; CN108346690A; US6818915B1; DE102006027382A1; EP1033757A3; EP1432030A3; US8901648B2; WO2008155086A1; WO2009079561A1; US6969909B2; US7166898B2

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DOCDB simple family (application)

**EP 97120763 A 19971126**; KR 19970063864 A 19971128; TW 86117870 A 19971127; US 97955997 A 19971126